

Amendments to the Drawings

The attached sheet of drawings includes changes to Fig. 10. This sheet, which includes Fig. 10, replaces the original sheet including those same Figures.

DESCRIBE CHANGE the legend "Conventional Art" is added to Fig. 10 to be consistent with the description of Fig. 10 in the brief description of the drawings in the main body of the specification.

Attachment: Replacement Sheet

REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application.

Claims 1-14 are now present in this application. Claims 1, 3, 8 and 10 are independent.

By this Amendment, claims 1-5, 7, 8, 10-12 and 14 have been amended. No new matter is involved.

Reconsideration of this application, as amended, is respectfully requested.

Priority Under 35 U.S.C. § 119

The Examiner has not acknowledged Applicant's claim for foreign priority under 35 U.S.C. § 119, and receipt of the certified priority document. Acknowledgment thereof by the Examiner in the next Office Action is respectfully requested.

Information Disclosure Citation

Applicants thank the Examiner for considering the reference supplied with the Information Disclosure Statement filed on August 24, 2006, and for providing Applicants with an initialed copy of the PTO/SB/08 form filed therewith.

Objection to the Drawings

The Examiner has objected to the drawings, stating that descriptive labels are needed in Figs. 1 and 10, and that Fig. 10 should include a legend such as, for example, "Prior Art," citing MPEP §608.02(g).

MPEP §608.02(g) only deals with the adding of a legend such as, for example, "Prior Art," and has nothing to do with adding descriptive labels to drawings.

Applicants have amended Fig. 10 to add the legend "Conventional Art" to make Fig. 10 be consistent with the description of Fig. 10 in the Brief Description of the Drawings portion of the main body of the specification, as filed.

However, applicants respectfully traverse the requirement to add descriptive labels to Figs. 1 and 10. No authority for this requirement is presented, and Applicants are not aware of any authority to make such a requirement. In fact, Applicants respectfully submit that the authority it is aware of does not support such a requirement.

In this regard, applicants note that this application is a national Stage entry under 35 USC §371 of a PCT Application, and the drawings are governed by 37 CFR §1.437, which states that PCT Rule 11 requirements are to be adhered to for drawings in such applications.

PCT Rule 11.11 states that the drawings shall not contain text matter except a single word or words when absolutely indispensable.

Figs. 1 and 10 contain a very minimum number of words in compliance with PCT Rule 11.11.

To add additional descriptive wording would violate the express provisions of PCT 11.11.

Accordingly, reconsideration and withdrawal of this requirement to add descriptive labels to Figs. 1 and 10 are respectfully requested.

Rejection Under 35 U.S.C. § 112, 2nd Paragraph

Claims 1-7 stand rejected under 35 U.S.C. § 112, 2nd Paragraph. This rejection is respectfully traversed.

The Examiner has set forth one instance wherein the language of independent claim 1 is not clearly understood.

In order to overcome this rejection, Applicants have amended claim 1 to correct the deficiency specifically pointed out by the Examiner. Applicants respectfully submit that claim 1, as amended, particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

The test for compliance with the second paragraph of 35 U.S.C. §112, as stated in *Miles Lab., Inc. v. Shandon Inc.*, 997 F.2d 870, 875, 27 USPQ2d 1123, 1126 (Fed. Cir. 1993), *cert. denied*, 510 U.S. 1100 (1994), is whether one skilled in the art would understand the bounds of the claims when read in light of the specification. If the claims, read in light of the specification, reasonably apprise those skilled in the art of the scope of the invention, Section 112 demands no more. *See also In re Merat*, 519 F.2d 1390, 1396, 186 USPQ 471, 476 (CCPA 1975), which

stated that the question under Section 112, second paragraph is whether the claim language, when read by a person of ordinary skill in the art in light of the specification, describes the subject matter with sufficient precision that the bounds of the claimed subject matter are distinct. *See also In re Warmerdam*, 33 F3d 1354, 1361, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). Moreover, this claim recites "substantially." Use of that term in a claim does not render the claim indefinite if the specification provides a standard whereby one of ordinary skill in the art would understand what is claimed when the claim is read in light of the specification. *See Seattle Box Co., Inc. v. Industrial Coating and packing, Inc.*, 731 F.2d 818, 826, 221 USPQ 568, 573-4 (Fed. Cir. 1984).

The second paragraph of 35 U.S.C. §112 requires claims to be set out and circumscribe a particular area with a reasonable degree of precision and particularity. *See In re Johnson*, 558 F.2d 1008, 1015, 194 USPQ 187, 193 (CCPA 1977).

Applicants respectfully submit that the claim 1, as amended, fully complies with 35 U.S.C. §112, second paragraph as they stand and because one of ordinary skill in the art can readily determine the metes and bounds of the invention.

As amended, claim 1 recites, in pertinent part, - - controlling the frequency of at least one of the optical signals from the first and second light sources so that the difference in frequency between the optical signals is a desired frequency of the modulated radio signal, and the frequency channel of the modulated radio signal extracted by the remote antenna station is switched - -.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Rejection Under 35 U.S.C. § 102

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Applicants' Fig. 10. This rejection is respectfully traversed.

A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

A prior art reference anticipates the subject matter of a claim when that reference discloses every feature of the claimed invention, either explicitly or inherently. *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) and *Hazani v. Int'l Trade Comm'n*, 126 F.3d 1473, 1477, 44 USPQ2d 1358, 1361 (Fed. Cir. 1997). While, of course, it is possible that it is inherent in the operation of the prior art device that a particular element operates as theorized by the Examiner, inherency may not be established by probabilities or possibilities. What is *inherent*, must necessarily be disclosed. See *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981); *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

During patent examination the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. See *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). If the PTO fails to meet this burden, then the applicant is entitled to the patent. However, when a *prima facie* case is made, the burden shifts to the applicant to come forward with evidence and/or argument supporting patentability. Patentability *vel non* is then determined on the entirety of the record, by a preponderance of evidence and weight of argument, *In re Gulag*, 62 USPQ2d 1151 (Fed. Cir. 2002).

Moreover, as stated in MPEP §707.07(d), where a claim is refused for any reason relating to the merits thereof it should be "rejected" and the ground of rejection fully and clearly stated.

Additionally, findings of fact and conclusions of law by the USPTO must be made in accordance with the Administrative Procedure Act, 5 U.S.C. §706(A), (E) (1994). *See Zurko v. Dickinson*, 527 U.S. 150, 158, 119 S.Ct. 1816, 1821, 50 USPQ2d 1930, 1934 (1999).

A claim limitation is inherent in the prior art if it is necessarily present in the prior art, not merely probably or possibly present. *See Rosco v. Mirro Lite*, 304 F.3d 1373, 1380, 64 USPQ2d 1676 (Fed. Cir. 2002). The dispositive question regarding anticipation is whether one skilled in the art would reasonably understand or infer from the prior reference's teaching that every claim feature or limitation was disclosed in that single reference, *Dayco Products, Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368, 66 USPQ2d 1801 (Fed. Cir. 2003).

As amended, claim 1 recites a combination of features, including controlling the frequency of at least one of the optical signals from the first and second light sources so that the difference in frequency between the optical signals is a desired frequency of the modulated radio signal, and the frequency channel of the modulated radio signal extracted by the remote antenna station is switched. The subject matter of Applicants' Fig. 10 does not disclose this claimed combination of features. For example, there is no disclosure in Fig. 10 that the frequency channel of the modulated radio signal extracted by the remote antenna station is switched, as claimed.

As amended, claim 8 recites a combination of features, including control means for controlling the frequency of at least one of the optical signals from the first and second light sources so that the difference in frequency between the optical signals is a desired frequency of the

modulated radio signal and the frequency channel of the modulated radio signal extracted by the remote antenna station is switched.

Fig. 10 contains no disclosure of these recited combinations of features.

Accordingly, claims 1 and 8, as amended, are not anticipated by Applicants' Fig. 10.

Reconsideration and withdrawal of the rejections of claims 1 and 8 as being anticipated by Applicants' Fig. 10 are respectfully requested.

Rejections under 35 U.S.C. §103

Claims 2 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' Fig. 10 in view of U.S. Patent 6,674,969 to Ogusu. This rejection is respectfully traversed.

A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

Because the rejection is based on 35 U.S.C. §103, what is in issue in such a rejection is "the invention as a whole, "not just a few features of the claimed invention. Under 35 U.S.C. §103, " [a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter *as a whole* would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." The determination under §103 is whether the claimed invention *as a whole* would have been obvious to a person of ordinary skill in the art at the time the invention was made. *See In re O'Farrell*, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). In

determining obviousness, the invention must be considered as a whole and the claims must be considered in their entirety. *See Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 1567, 220 USPQ 97, 101 (Fed. Cir. 1983).

In rejecting claims under 35 U.S.C. §103, it is incumbent on the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in *Graham v John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one of ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. *See Uniroyal Inc. v. F-Wiley Corp.*, 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), *cert. denied*, 488 U.S. 825 (1988); *Ashland Oil, Inc. v Delta Resins & Refractories, Inc.*, 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), *cert. denied*, 475 U.S. 1017 (1986); *ACS Hospital Systems, Inc. v Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a *prima facie* case of obviousness. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. *See In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 84 (Fed. Cir. 1992). To establish *prima facie* obviousness of a claimed invention, all the claim

limitations must be suggested or taught by the prior art. *See In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1970). All words in a claim must be considered in judging the patentability of that claim against the prior art. *See In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

A suggestion, teaching, or motivation to combine the prior art references is an "essential evidentiary component of an obviousness holding." *See C.R. Bard, Inc. v. M3 Sys. Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998). This showing must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not "evidence." *See In re Dembiczak*, 175 F.3d 994 at 1000, 50 USPQ2d 1614 at 1617 (Fed. Cir. 1999).

Moreover, it is well settled that the Office must provide objective evidence of the basis used in a prior art rejection. A factual inquiry whether to modify a reference must be based on objective evidence of record, not merely conclusory statements of the Examiner. *See In re Lee*, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002).

Furthermore, during patent examination, the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785788 (Fed. Cir. 1984). If the PTO fails to meet this burden, then the Applicant is entitled to the patent. Only when a *prima facie* case is made, the burden shifts to the applicant to come forward to rebut such a case.

Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the

legal conclusion of obviousness:" *In re Kahn*, 441 F.3d 977,988(Fed. Cir. 2006) (quoted with approval in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007)).

In the sentence just prior to citing the *Kahn* case, the U.S. Supreme Court clearly stated that there has to be an apparent reason to combine the known elements in the manner claimed. The Office has the burden of making out a *prima facie* case of obviousness, i.e., by presenting objective factual evidence of a reason to combine the known elements in the manner claimed. The *KSR* decision did not lift that burden from the Office.

The articulated reasoning has to express a rationale explaining what would have led an ordinarily skilled artisan to combine selected features from each reference in a way that would have resulted in the claimed invention. See, *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007). Thus, the Supreme Court reaffirmed the fundamental principles set forth in the *Graham v. John Deere Co.* decision, cited and discussed above.

Initially, applicants note that the subject matter of claims 1 and 8 is not disclosed by Applicants' Fig. 10. Moreover, Ogusu, the secondary reference, does not disclose the subject matter of claims 1 and 10. For example, Ogusu fails to disclose, or suggest, switching the frequency channel of the modulated radio signal generated by antenna 15.

The stated reason to combine these two references is to have a system capable of changing the frequency of the light and the frequency difference between the light and another light, referencing Ogusu, col. 4, lines 37-43.

However, that is not what is done in Applicant's Fig. 10, and adding Ogusu's system to Applicants' Fig. 10 will not result in, suggest, or otherwise render obvious the claimed invention

because when Ogusu modulates one of its optical frequency laser beams and combines its two optical frequency laser beams, Ogusu merely generates another third optical frequency laser beam that has to go through an optical receiver 200 to generate a radio wave, and because of this, there is no proper motivation for one of ordinary skill in the art to turn to Ogusu to modify Applicants' Fig. 10, as suggested, because Ogusu's laser beam mixing operation simply does not result in a variable output radio frequency channel. Thus, the proposed modification of Applicants' Fig. 10 based on Ogusu would result in using Ogusu's optical channel output in Applicants' Fig. 10, which requires a radio frequency channel output. This would result in an inoperative device.

Another way of stating this is that Applicants' claimed invention cannot be achieved by modifying Applicants' Fig. 10 with Ogusu, as suggested.

Accordingly, the Office Action fails to make out a *prima facie* case of obviousness of the subject matter recited in currently pending claims 2 and 9.

Reconsideration and withdrawal of this rejection of claims 2 and 9 are respectfully traversed.

Allowable Subject Matter

The Examiner states that claims 3-7 and 10-14 would be allowable if rewritten in independent form and overcome the rejections under 35 USC §112, second paragraph.

Applicant thanks the Examiner for the early indication of allowable subject matter in this application. Objected-to claims 3 and 10 have been rewritten into independent form and to

overcome the rejections under 35 USC §112, second paragraph, and should therefore be allowed. Also, because claims 4-7 depend from claim 3 and claims 11-14 depend from claim 10, claims 3-7 and 10-14 should be in condition for allowance.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Robert J. Webster, Registration No. 46, 472, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

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Art Unit 2613

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Reply to Office Action dated September 9, 2009
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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Date: December 8, 2009

Respectfully submitted,

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Attachment: Replacement Drawing Sheet